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COLORADO TIMBER PRODUCTION AND MILL RESIDUES, 1974

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ABSTRACT

Colorado roundwood timber production in 1974 was 47.3 million cubic feet, down about 1 million cubic feet from the 1969 estimate, and 4.6 million cubic feet from 1966. Saw log and veneer log production combined totaled 40.2 million cubic feet, almost the same as in 1969. No round pulpwood production was reported in 1974. The estimated volume of mill residues from the lumber and veneer and plywood industries was 22 million cubic feet. The volume of residues used, mainly as pulp chips and fuel, was 12.5 million cubic feet.

KEYWORDS: primary wood products, sawtimber, pulpwood, mill residues use

In 1974, Colorado's timber harvest was estimated to be 47.3 million cubic feet. This volume was about 2 percent less than the 1969 harvest and 7 percent less than the record high production of 1966 (fig. 1).

Combined saw log and veneer log production in 1974 was 40.2 million cubic feet (table 1). This volume is comparable to 1969 production of 40.3 million cubic feet, although the proportion of the two products was somewhat different. Veneer log volume was higher, and saw log volume lower, in 1969. No round pulpwood production was reported in 1974. All other roundwood products combined totaled 7.1 million cubic feet, slightly less than in 1969.

Engelmann spruce accounted for 43 percent of mill receipts of saw logs (tables 2 and 3) and lodgepole pine, ponderosa pine, and Douglas-fir combined accounted for an additional 48 percent. Aspen volume increased substantially from 1969.

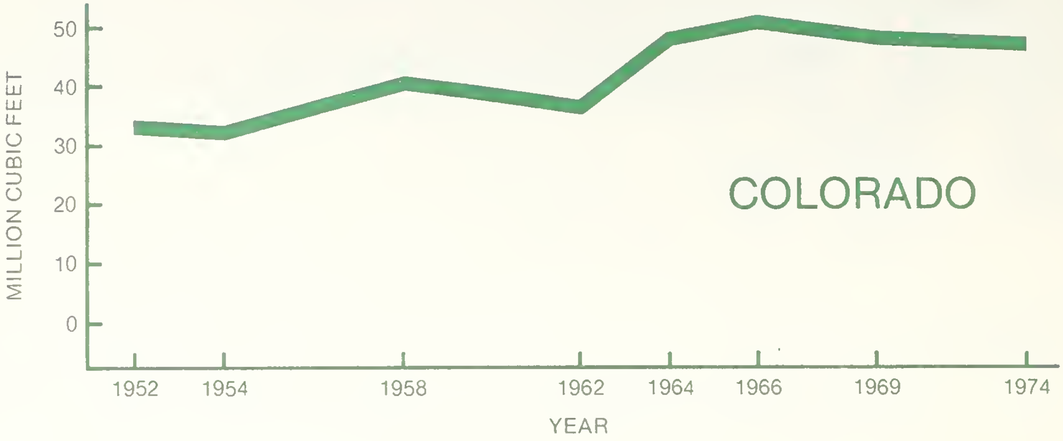

Figure 1.--Roundwood harvest, 1952-1974. Plotted volumes through 1969 are from Setzer (1971)

Table 1.--*Roundwood harvest from Colorado timberlands by species and product, 1974*

Product	Species						All species	
	True firs	Engelmann spruce	Lodgepole pine	Ponderosa pine	Douglas-fir	Aspen, cottonwood[1]	Volume	Percent
	Thousand cubic feet							
Saw logs and veneer logs	2,650	17,440	7,371	7,192	4,705	863	40,221	85.1
Miscellaneous industrial wood[2]	1	887	1,117	902	3	1,376	4,286	9.0
Posts, fuelwood, miscellaneous farm timbers	(3)	34	1,317	501	2	923	2,777	5.9
Total	2,651	18,361	9,805	8,595	4,710	3,162	47,284	100.0
Percent of total	5.6	38.8	20.7	18.2	10.0	6.7	100.0	

[1] Includes juniper.

[2] Includes commercial poles, excelsior bolts, house logs, match stock, and mine timbers.

[3] Less than 0.5 thousand cubic feet.

Table 2.--*Mill receipts of saw logs from Colorado timberlands by species and county of origin, 1974*

County	Species						All species	
	True firs	Engelmann spruce	Lodgepole pine	Ponderosa pine	Douglas-fir	Aspen, cottonwood	Volume	Percent
	Thousand board feet, International 1/4-inch rule							
Alamosa	--	--	--	--	--	445	445	0.2
Archuleta	4,324	5,612	--	12,272	4,619	1,011	27,838	11.6
Boulder	--	--	7	93	--	--	100	(1)
Conejos	--	5,916	--	222	589	--	6,727	2.8
Custer	74	148	--	964	1,483	--	2,669	1.1
Delta	--	1,112	--	148	222	--	1,482	.6
Dolores	--	11,084	--	903	556	1,668	14,211	5.9
Douglas	--	--	--	216	22	--	238	.1
Eagle	--	2,488	3,359	--	--	--	5,847	2.4
Elbert	--	--	--	297	--	--	297	.1
El Paso	--	--	--	319	--	--	319	.1
Garfield	111	2,300	--	--	74	--	2,485	1.0
Grand	479	5,176	14,958	--	--	--	20,613	8.6
Gunnison	15	13,175	252	--	37	445	13,924	5.8
Huerfano	44	--	--	1,134	1,275	--	2,453	1.0
Jackson	341	3,996	18,943	--	--	--	23,280	9.7
La Plata	7,414	7,414	--	15,087	14,828	--	44,743	18.7
Larimer	--	222	3,835	1,787	1	--	5,845	2.4
Las Animas	--	--	--	741	371	--	1,112	.5
Logan	--	--	--	37	--	--	37	(1)
Mesa	--	5,190	--	692	--	--	5,882	2.5
Mineral	2,401	10,770	--	--	130	--	13,301	5.6
Moffat	--	--	30	--	--	148	178	.1
Montezuma	--	2,780	--	185	185	1,520	4,670	2.0
Montrose	--	--	--	2,298	741	--	3,039	1.3
Park	--	--	--	282	--	--	282	.1
Pitkin	--	279	92	--	--	--	371	.2
Pueblo	1	--	--	24	4	168	197	.1
Rio Blanco	--	193	74	--	148	--	415	.2
Rio Grande	630	10,645	--	311	574	--	12,160	5.1
Routt	--	5,995	5,700	--	--	--	11,695	4.9
Saguache	3	8,139	--	357	4,297	--	12,796	5.3
Teller	--	--	--	52	--	--	52	(1)
Total	15,837	102,634	47,250	38,421	30,156	5,405	239,703	100.0

[1] Less than 0.05 percent.

La Plata County again led the State in saw log production with 44.7 million board feet (table 2),[1] followed by Archuleta County with 27.8 million board feet, and Jackson County with 23.3 million board feet. Forty percent of the saw log volume came from these three counties.

National Forests provided 90 percent of the volume of roundwood products in 1974, about the same as in 1966. Nearly all of the remainder came from private lands.

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[1] International 1/4-inch log rule is in the text of this report for board-foot volumes of roundwood unless otherwise specified.

Table 3.--*Mill receipts of saw logs from Colorado timberlands by species and county of origin, 1974*

County	Species						All species	
	True firs	Engelmann spruce	Lodgepole pine	Ponderosa pine	Douglas-fir	Aspen, cottonwood	Volume	Percent
	Thousand board feet, Scribner							
Alamosa	--	--	--	--	--	397	397	0.2
Archuleta	3,861	5,011	--	10,957	4,124	903	24,856	11.6
Boulder	--	--	7	83	--	--	90	([1])
Conejos	--	5,282	--	199	526	--	6,007	2.8
Custer	66	132	--	861	1,324	--	2,383	1.1
Delta	--	993	--	132	199	--	1,324	.6
Dolores	--	9,896	--	806	496	1,489	12,687	5.9
Douglas	--	--	--	193	20	--	213	.1
Eagle	--	2,222	2,999	--	--	--	5,221	2.4
Elbert	--	--	--	265	--	--	265	.1
El Paso	--	--	--	285	--	--	285	.1
Garfield	99	2,053	--	--	66	--	2,218	1.0
Grand	428	4,622	13,356	--	--	--	18,406	8.6
Gunnison	13	11,763	225	--	33	397	12,431	5.8
Huerfano	40	--	--	1,013	1,139	--	2,192	1.0
Jackson	305	3,568	16,913	--	--	--	20,786	9.7
La Plata	6,620	6,620	--	13,471	13,239	--	39,950	18.7
Larimer	--	199	3,424	1,595	1	--	5,219	2.4
Las Animas	--	--	--	662	331	--	993	.5
Logan	--	--	--	33	--	--	33	([1])
Mesa	--	4,634	--	618	--	--	5,252	2.5
Mineral	2,143	9,616	--	--	117	--	11,876	5.6
Moffat	--	--	26	--	--	132	158	.1
Montezuma	--	2,482	--	165	165	1,357	4,169	2.0
Montrose	--	--	--	2,052	662	--	2,714	1.3
Park	--	--	--	252	--	--	252	.1
Pitkin	--	249	82	--	--	--	331	.2
Pueblo	1	--	--	21	4	150	176	.1
Rio Blanco	--	172	66	--	132	--	370	.2
Rio Grande	563	9,504	--	278	512	--	10,857	5.1
Routt	--	5,353	5,089	--	--	--	10,442	4.9
Saguache	3	7,267	--	319	3,837	--	11,426	5.3
Teller	--	--	--	46	--	--	46	([1])
Total	14,142	91,638	42,187	34,306	26,927	4,825	214,025	100.0

[1] Less than 0.05 percent.

Table 4.--*Estimated volume of used and unused residues from mills in Colorado, 1974*

Residues	Total		Unused		Used	
	1969	1974	1969	1974	1969	1974
	Thousand cubic feet					
Bark	6,431	5,345	6,401	3,853	30	1,492
Coarse[1]	10,503	9,003	6,012	2,070	4,491	6,933
Fine[2]	9,395	8,401	6,518	4,285	2,877	4,116

[1] Material suitable for chipping, such as slabs, edgings, and trimmings.
[2] Material such as sawdust and shavings.

Utilization of mill residues has increased substantially since 1966 (table 4). Sixty-three percent of the combined volume of coarse and fine residues from the lumber and veneer and plywood industries was utilized in 1974, compared to 11 percent in 1966. The principal uses were for pulp chips, fuel, and livestock bedding.

Timber production from growing stock was 43.4 million cubic feet. This was 0.35 percent of the State's net growing stock volume on commercial forest land. Comparable gross growth was 2.02 percent of net growing stock volume. Figure 2 shows timber production for two selected years, net annual growth, and annual mortality. Estimates of commercial forest land area by site classes, growing stock volume, growth, mortality, and salvable dead volumes are for 1970 (Green and Setzer 1974).

The figure 2 comparisons suggest that with present forest management Colorado timber production could be increased substantially without exceeding a sustainable level.

Volume of products from dead trees was 3.7 million cubic feet, which is 4 percent of annual mortality and about 0.3 percent of the State's estimated total volume of salvable dead trees. There appear to be opportunities to increase production by capturing new mortality and utilizing greater quantities of existing salvable dead material.

Average stocking of the State's commercial forest land is 1,653 cubic feet per acre. If all of this volume is assumed to be merchantable, 1974's timber production would have required cutting on about 28,600 acres, or a fraction of 1 percent of the commercial forest acreage.

Because of the shift to partial cutting in recent years in Colorado, the area cut over annually is considerably larger. Assuming a harvest of about 900 cubic feet per acre (5,400 board feet) with partial cutting, the area necessary to produce the 1974 harvest volume would have been about 53,000 acres, still less than 1 percent of the commercial forest land in the State.

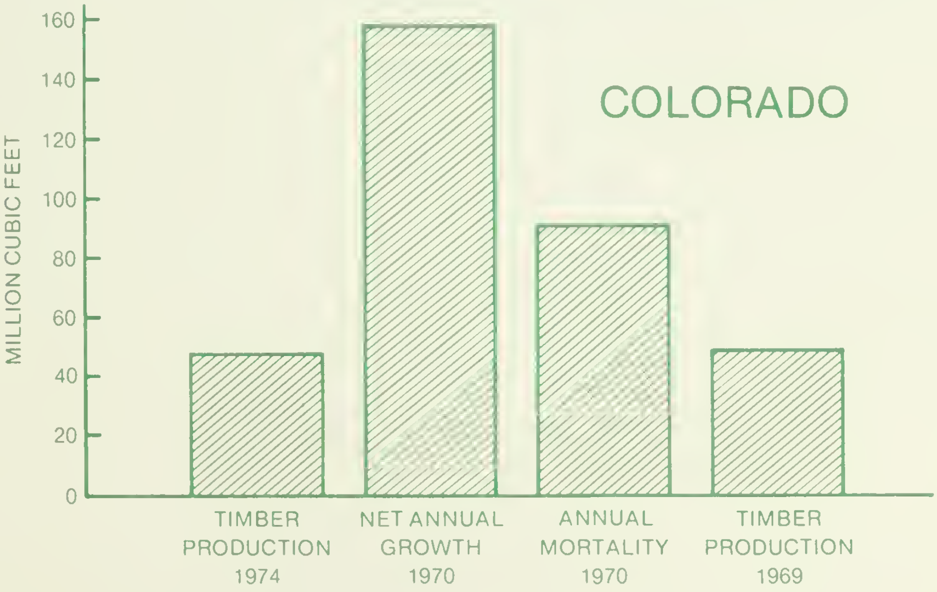

Figure 2.--Relationship of timber production for 1974 and 1969, net annual growth, and annual mortality.

The 1974 timber production expressed on a per acre of commercial forest land basis was 5.23 cubic feet, or 19.09 percent of gross growth per acre. If potential productivity could be achieved on the State's commercial forest land, average gross growth per acre would increase from the current 27.40 cubic feet to 43.34 cubic feet. An estimate of potential annual productivity for Colorado is 391.8 million cubic feet. It was calculated by multiplying the midpoint cubic foot value of each site class by its associated area (Green and Setzer 1974) and summing the products. Colorado forest land producing at its potential could yield more timber on the same number of acres, or provide the same yield from fewer acres.

ACKNOWLEDGMENT

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GLOSSARY

Commercial forest land	Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. (Areas qualifying as commercial forest land have the capability of producing in excess of 20 cubic feet per acre per year of industrial wood under management. Inaccessible areas and areas that cannot be harvested with available equipment are included, except when the areas involved are small and unlikely to become suitable for production of industrial wood in the foreseeable future.)
Gross growth	Annual increase in net volume of trees in the absence of cutting and mortality.
Growing-stock trees	Live trees of commercial species meeting specified standards of quality or vigor; excludes cull trees.
Net annual growth	The increase in net volume of a specified size class for a specific year. (Components of net annual growth include the increment in net volume of trees at the beginning of the specific year surviving to its end, plus net volume of trees reaching the size class during the year, minus the net volume of trees that died during the year, minus the net volume of trees that became rough or rotten trees during the year.)
Mill residues	Wood materials from manufacturing plants not utilized for the mill's primary product. (In this report, includes slabs, edgings, trimmings, miscuts, sawdust, shavings, and veneer cores and clippings.)
Roundwood products	Logs, bolts, or other round sections cut from trees for industrial or consumer uses. (Includes saw logs, veneer logs and bolts, pulpwood, fuelwood, piling, poles, hewn ties, mine timbers, and various other round, split, or hewn products.)
Site class	A classification of forest land in terms of inherent capacity to grow crops of industrial wood.
Timber production	Production of roundwood timber products.

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